

## CASE REPORT

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# Direct Admission to an Extended-Care Facility from the Emergency Department

**BACKGROUND.** Many patients are admitted to acute-care hospitals when their medical needs might be more appropriately met in an extended-care facility (ECF).

**OBJECTIVE.** To describe a cohort of patients who were admitted from an emergency department to an ECF.

**DESIGN.** Observational cohort study.

**PARTICIPANTS.** 121 enrollees of Harvard Vanguard Medical Associates who were admitted directly from an emergency department to an ECF between October 1, 1994, and December 31, 1997.

**OUTCOME MEASURES.** Mean length of stay, charges per patient, and discharge disposition (discharged to home, discharged to a long-term-care facility, died, or transferred to an acute-care hospital within 30 days of ECF admission).

**RESULTS.** Patients admitted directly to an ECF were generally frail and elderly (median age, 75 years). Mean length of stay in the ECF was 11 days; the mean per-patient charge was \$3290. Three quarters of patients were discharged from the ECF to their homes. Six percent (seven patients) were transferred from the ECF to an acute-care hospital within 30 days of ECF admission. None of these transfers clearly suggested that the initial decision to directly admit a patient to the ECF was inappropriate. Most patients were satisfied with direct ECF admission: Of the surviving, cognitively intact patients admitted to an ECF in 1997, 71% stated that they would choose direct admission to an ECF over admission to an acute-care hospital if they were “in a similar situation in the future.”

**CONCLUSIONS.** For selected patients, direct admission to an ECF seems to be feasible, safe, and acceptable. A randomized, clinical trial is needed to fully assess the safety and cost implications of direct ECF admission.

In an ideal health care delivery system, a patient's clinical requirements would determine the setting of care. In reality, however, patients are sometimes admitted to an acute-care hospital when their overriding needs are for rehabilitation or long-term care. Such needs might be more appropriately met in an extended-care facility (ECF), a setting designed to provide skilled, inpatient nursing care on a daily basis (see **Glossary**).

Most ECF patients are admitted immediately after hospitalization for acute care. Direct admissions to ECFs from emergency departments have been extremely rare. Barriers to such admissions include logistical and administrative issues (e.g., how should direct admissions be arranged?) and concerns about safety (e.g., is the patient stable enough to forgo acute-care hospitalization?). In fact, Medicare requires a 72-hour stay in an acute-care hospital before transfer to an ECF.<sup>1</sup> This requirement reflects Medicare's interest in stability before transfer, but it also serves the program's interest in cost containment by creating an administrative barrier to discourage overutilization of ECFs. Fee-for-

See editorial comment on pages 138–140.

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service Medicare patients who are appropriate candidates for ECF admission but who are not first admitted to an acute-care hospital must pay for the ECF out of pocket.

From the perspective of both patients and payers, directly admitting appropriate patients to an ECF has several potential advantages. For typical elderly and debilitated patients, the necessary chronic care may be more readily and efficiently available in an ECF than in a hospital, which is geared more toward acute-care issues. Perhaps most important, direct ECF admission might protect patients from the risks of hospitalization, such as iatrogenic complications,<sup>2,3</sup> exposure to pathogens, and deconditioning (ironically, physical therapy may be deferred pending transfer to an ECF).<sup>4</sup> For payers, the ECF has a financial advantage because its costs are generally far lower than those of a hospital.<sup>5,6</sup>

In 1994, Harvard Vanguard Medical Associates (HVMA) initiated the Internal Medicine Facilitator Program, which placed an HVMA internist in the emergency department at Brigham and Women's Hospital. In addition to other duties, this physician evaluates patients with respect to safe alternatives to inpatient admission, including direct admission to an ECF. In this paper, we describe the experience of patients who underwent direct ECF admission during the first 3 years of the facilitator program. Specifically, we detail clinical outcomes and utilization to help establish the safety and feasibility of direct ECF admission.

## Methods

### Practice Setting

Harvard Vanguard Medical Associates is a large, multi-specialty group practice caring for a demographically diverse population in the greater Boston area. The patients in this study were drawn from the population served by the group/staff HMO: approximately 160,000 adult enrollees who received primary care at one of eight health centers during the study period (October 1, 1994, to December 31, 1997). These health centers refer all patients who require emergency department evaluation to Brigham and Women's Hospital (for a total of approximately 800 emergency department visits per month).

### The Internal Medicine Facilitator Program and the Process of Direct ECF Admission

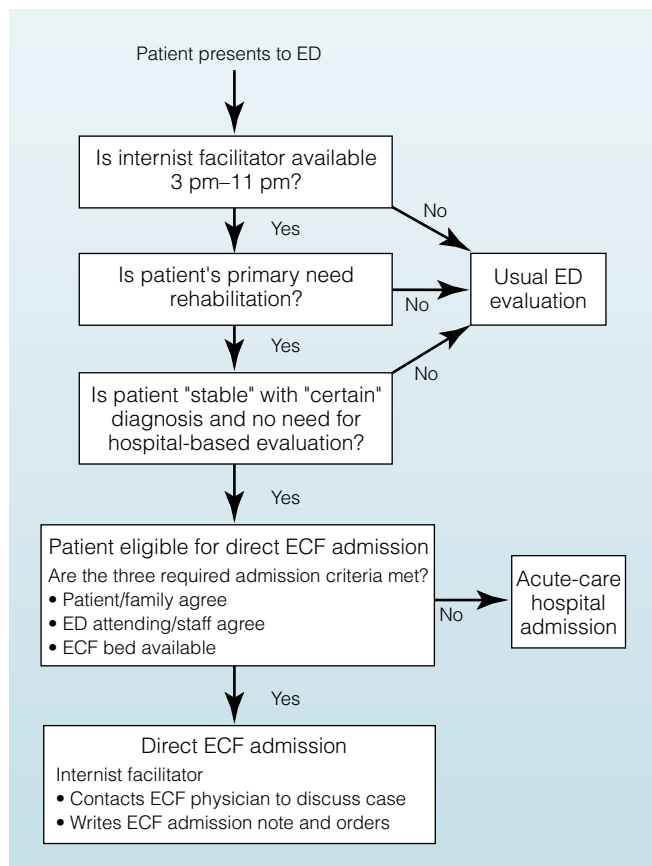
The process of directly admitting patients from an emergency department to an ECF is made possible by HVMA's Internal Medicine Facilitator Program. The facilitator is an HVMA internist who works in the emergency department at Brigham and Women's Hospital from 3 p.m. to 11 p.m. 7 days a week. He or she assists in making evaluation and disposition plans for HVMA patients by alerting the emergency department staff to alternatives to hospital admission

that have been created by HVMA's outpatient support systems. In our study, candidates for direct ECF admission were broadly defined as patients whose predominant need was physical therapy and rehabilitation. Contraindications to direct ECF admission were unstable vital signs, need for additional hospital-based work-up, and uncertain diagnosis.

After deciding that a patient was a potential candidate for direct ECF admission (**Figure 1**), the facilitator would:

- Check with the emergency department attending physician to ensure that he or she agreed with the direct ECF plan
- Discuss the potential ECF admission with the patient and the patient's family
- Ask the HVMA case management nurse to screen insurance and check bed availability at the ECF (patients could be admitted to any of eight ECFs, all of which are within a few miles of Brigham and Women's Hospital)
- Page the physician on call for the ECF to discuss the case.

Fewer than 5% of patients refused direct ECF admission—usually because they strongly preferred admission to Brigham and Women's Hospital. If a patient



**FIGURE 1. Extended-care facility (ECF) admission process.** ED = emergency department.

TABLE 1

**Characteristics of Patients Admitted to an ECF Directly from the Emergency Department\***

CHARACTERISTIC	PATIENTS (n = 121)
Mean age $\pm$ SD, yr	72 $\pm$ 15.1
Female	66%
<b>Diagnosis on ECF admission</b>	
Any fracture	22%
General symptoms (e.g., dizziness, weakness, or dehydration)	14%
Falls	13%
Transient ischemic attack or stroke	10%
Cancer	9%
Sciatica or back pain	9%
Mental status change	7%
Chronic obstructive pulmonary disease	6%
Other	10%

\*ECF = extended-care facility.

refused direct ECF admission, if an ECF bed was not available, or if a patient had a contraindication to direct ECF admission, he or she would receive "usual care": admission to the acute-care hospital.

**Patients Receiving Direct ECF Admission**

The cohort of patients who underwent direct ECF admission was established by reviewing the records kept for all HVMA patients seen at the emergency department at Brigham and Women's Hospital. Candidates who refused direct ECF admission could not be identified. Data on clinical and utilization outcomes for the direct-ECF patients were available from the ECF computerized information system and from individual patient records. Details of acute-care hospitalizations for direct-ECF patients who subsequently required admission to the hospital were obtained from the computer system and medical records department at Brigham and Women's Hospital.

**Clinical Outcomes and Utilization**

Direct-ECF patients were discharged to their homes, to the acute-care hospital, or to a long-term-care facility, or died. Mean length of stay and mean per-patient charges (reflecting the actual dollar cost paid by the health plan) were calculated.

**Patient Satisfaction**

We attempted to measure patient satisfaction with the process of direct ECF admission. To maximize meaningful recall, we restricted this analysis to the 35 surviving direct-ECF patients in calendar year 1997. Of these 35 patients, 21 completed telephone interviews. The other 14 patients were unable to complete the interview questionnaire, mainly because of cognitive impairments.

**Results**

Between October 1, 1994, and December 31, 1997, 121 patients were directly admitted to an ECF from the Brigham and Women's Hospital emergency department. Table 1 details the demographic characteristics and diagnoses of these patients. Patients were generally frail and elderly. Their average age was 72 years; two thirds were women; and most admission diagnoses related to functional limitations stemming from chronic pain, fractures, and cerebrovascular disease.

The outcomes of these patients are summarized in Table 2. The mean length of stay in an ECF was 11 days, and the average per-patient charge was \$3290. Seventy-six percent of patients were discharged to their homes, and 10% were transferred to long-term-care facilities. Ten patients (8%) died at the ECF; however, all but one of these patients had been referred to the ECF for "terminal care." The exception, a 79-year-old woman who was planning to return home, died unexpectedly on the 13th day of her stay in the ECF.

TABLE 2

**Outcome for Patients Admitted to an ECF Directly from the Emergency Department\***

OUTCOME	PATIENTS (n = 121)
Mean length of stay	11 days
Mean charges per patient	\$3290
<b>Discharge disposition</b>	
Home or home with services	76%
Acute hospital transfer within 30 days <sup>†</sup>	6%
Long-term-care facility	10%
Dead <sup>‡</sup>	8%

\*ECF = extended-care facility.

<sup>†</sup>See Table 3 for reasons to transfer.

<sup>‡</sup>Nine of the 10 patients were admitted to an ECF for terminal care.

Seven patients (6%) were transferred back to the acute-care hospital from the ECF within 30 days of ECF admission (Table 3). On average, these patients spent 4.1 days in the ECF before returning to the hospital and had a 9-day length of stay in the hospital after their return. Five of these seven patients returned because their underlying condition worsened despite apparently adequate care in the ECF. The other two patients had a new diagnosis; in both patients, the diagnosis was related to the ini-

tial condition: One patient had pneumonia secondary to rib fractures and splinting, and the other had narcotic ileus related to pain medication. All seven patients were discharged alive from the hospital: Six were discharged to an ECF, and one was discharged home.

Of the 35 surviving direct-ECF patients from 1997, 21 completed a telephone interview. In answer to the question, "If you were in a similar situation in the future, would you prefer to be admitted to the acute hospital or

**TABLE 3**  
**Experience of Seven Patients Transferred Back to an Acute-Care Hospital within 30 Days of Direct ECF Transfer\***

PATIENT	INITIAL DIAGNOSIS		TRANSFER BACK TO BRIGHAM AND WOMEN'S HOSPITAL			
	EMERGENCY DEPARTMENT	ECF	DAYS UNTIL RETURN	REASON FOR RETURN	ADMISSION DIAGNOSIS	HOSPITAL COURSE AND DISPOSITION
80-year-old woman	Difficulty walking, s/p fall; transient ischemic attack	Cerebrovascular accident	1	Existing problem worsened	Right-sided cerebrovascular accident; seizure disorder	Admitted to medical department with worsening dysarthria, confusion, and weakness; returned to ECF for speech and physical therapy
33-year-old woman	Multiple sclerosis flare-up	Multiple sclerosis exacerbation	2	Existing problem worsened	Respiratory distress; quadriplegia	Admitted to pulmonary department with increased shortness of breath, quadriplegia; required mechanical ventilation; returned to ECF for rehabilitation and weaning from ventilator
50-year-old woman	Back pain, s/p fall	Lupus, low back pain	2	New diagnosis	Shortness of breath, s/p fall	Admitted to medical department with increased pain and shortness of breath; pneumonia diagnosed in setting of rib fractures; returned to ECF for pain management and physical therapy
49-year-old woman	Multiple sclerosis symptoms, s/p fall	Pelvic fracture, s/p fall	4	New diagnosis	Narcotic ileus	Admitted to general surgery with nausea, vomiting, fever, and chills; rectal tube placed; patient returned home with services after symptoms subsided
63-year-old woman	COPD; steroid psychosis	COPD; steroid psychosis	4	Existing problem worsened	COPD exacerbation	Admitted to pulmonary department with worsening psychosis and hypercarbia; received intubation and later returned to ECF for tapering of steroid therapy and rehabilitation
70-year-old man	Infected toe	Peripheral vascular disease	7	Existing problem worsened	Multiple necrotic toes	Admitted to vascular surgery (patient had agreed with original plan for expectant care); remaining 7 toes amputated, and patient returned to ECF for wound care
74-year-old woman	Muscle strain, s/p fall with hip injury	Hypertension; Parkinson's disease	9	Existing problem worsened	Displaced subcapsular hip fracture	Admitted to orthopedics department for hip hemiarthroplasty; returned to ECF for physical therapy

\*COPD = chronic obstructive pulmonary disease; ECF = extended-care facility; s/p = status post.

transferred to an ECF?”, 71% indicated a preference for direct ECF admission.

## Discussion

The HVMA experience suggests that direct admission from an emergency department to an ECF is safe for selected patients. In the first 3 years of our program, patients who underwent direct ECF admission were typically frail, elderly women who could not thrive at home because of functional limitations, chronic pain, or a need for assistance with daily activities that exceeded available outpatient resources. In many cases, direct ECF admission resulted from a minor acute event that made it temporarily impossible for the patient to remain at home. Our program shows that it is possible to identify appropriate patients for direct admission to an ECF, where necessary medical care—primarily physical therapy—can be offered efficiently and without the many risks of acute-care hospitalization. Furthermore, our limited telephone survey suggests that the new practice option was not only feasible but also acceptable to patients.

Several limitations of our study warrant comment. Because our study was purely descriptive, we do not know if patient outcomes might have been better with standard practices (i.e., admission to an acute-care hospital with subsequent transfer to an ECF). Overall, patients did well, and most were able to return home after a limited stay in an ECF. For these patients, it is not clear whether admission to an acute-care hospital could have offered any benefit, and in fact, the literature suggests that direct ECF admission may have spared these patients harm.<sup>2-4</sup> The outcomes of the patients who were subsequently transferred back to the acute-care hospital are reassuring. None of these transfers clearly suggest that the initial decision to directly admit a patient to an ECF was inappropriate. The experience of two patients (one with worsening cerebrovascular symptoms and one with a flare-up of multiple sclerosis who needed intubation) raises questions about the timing of direct ECF admission. Some patients might benefit from a longer observation period in the emergency department before admission to the ECF. This would be particularly reasonable in emergency departments that have observation units. It does not seem that the decision to admit patients directly to an ECF resulted in bad outcomes that initial acute-care hospitalization might have prevented (Table 3). For example, “expectant care” was recommended by the vascular surgeons for the patient with an infected toe, and another patient sustained rib fractures after a fall and subsequently developed pneumonia. It is unlikely that initial acute-care hospitalization for these patients would have resulted in different outcomes. Whether initial acute-care hospitalization would have pre-

vented the one unanticipated death—the 79-year-old woman who died in the ECF on day 13—is unknown.

Fully establishing the effects of the direct ECF strategy will require a randomized, clinical trial comparing direct ECF admission with usual care. On the basis of our data, we believe that such a trial is justified to definitively establish the safety of direct ECF admissions. Moreover, although it is tempting to assume that direct ECF admission has a lower cost for payers, it is possible that it is merely an additional service. That is, one could conjecture that our patients who underwent direct ECF admission would have been discharged to their homes before the facilitator program and direct ECF program existed. Under fee-for-service Medicare, for example, direct ECF admission would create a financial incentive to admit patients to the ECF. On the other hand, capitated plans may have very different financial incentives. Because the planned method for risk-adjusting payments to HMOs (to begin in January 2000) relies on the diagnoses listed on the hospital encounter form, capitated plans will soon have an incentive to admit patients to the acute hospital rather than to an ECF.

Without a randomized trial, questions about the net effect of a direct ECF program on patient outcomes and costs cannot be answered. Given the remaining uncertainty about the safety of direct ECF admission, the known risks of usual care (i.e., acute hospitalization), and the potentially large cost savings of direct ECF admission, we believe that such a trial should be done. Such a trial would explicitly address the wisdom of Medicare’s 72-hour rule—for example, it could compare both the direct costs (about \$4000 for an average 3-day hospital stay at Brigham and Women’s Hospital) and the indirect costs of usual care with the costs of a direct ECF program.

Although the facilitator program enables the direct ECF process, we believe that this triage option is generalizable to other practice settings. Emergency department attending physicians can perform many of the tasks accomplished by the HVMA facilitator if they become more familiar with the capabilities of ECFs and the concepts of alternative levels of care. Strong case management is crucial to the success of such efforts. Alternatively, hospitalists, who are increasingly used in many health care delivery systems,<sup>7,8</sup> are well positioned to evaluate and triage emergency department patients who may be candidates for direct ECF admission.

## Summary

Direct transfer from an emergency department to an ECF can be a clinically sound option for selected patients. Further study may help to define the population for whom this intervention is most appropriate and to elucidate the magnitude of the potential benefits of such a system. Both



patients and payers stand to benefit to the extent that direct ECF admission avoids the risks of admitting a patient to an acute-care hospital and makes it possible to provide needed services (e.g., physical therapy) in a lower-cost environment.

## Take-Home Points

- Many patients are admitted to acute-care hospitals when they probably only require nonacute services, such as rehabilitation or placement in a long-term-care facility.
- Admitting selected patients directly from the emergency department to an ECF may be a reasonable alternative.
- In our observational study, direct ECF admission seemed feasible, safe, and acceptable to patients.
- Our experience raises the question of whether Medicare should remove its requirement for a 72-hour acute-care hospitalization before transfer to an ECF.
- A randomized, clinical trial is needed to fully assess the safety and cost implications of direct ECF admission.

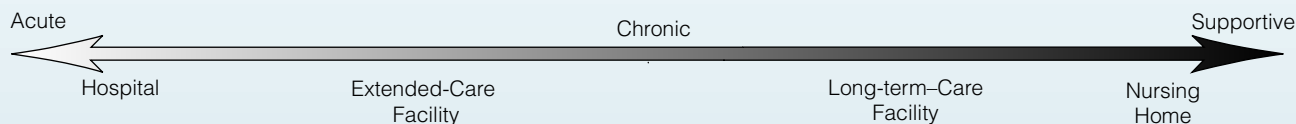
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## Glossary: Continuum of Care



**Hospital:** Institution with an organized medical staff that provides medical care to patients.

**Extended-care facility:** Setting that provides skilled nursing care or rehabilitation services for inpatients on a daily basis. Also known as a skilled nursing facility.

**Long-term care facility:** Setting that provides care over an extended period, usually for a chronic condition or disability that require periodic, intermittent, or continuous care.

**Nursing home:** Setting that provides "custodial care" (generally on a long-term basis), such as board, room, and other personal assistance services, exclusive of regular medical care.

*\*All definitions are derived from the National Library of Medicine Medical Subject Headings Scope Notes, available at <http://www.ncbi.nlm.nih.gov/pubmed/>.*